

What is claimed is:

1. A weld checking apparatus for a laser welding machine having a welding head triggering laser beam to a welding object, the weld checking apparatus comprising:

an auxiliary flash intercepting plate removably mounted on a flexible arm installed on the welding head to intercept a flash generated during a laser welding process;

a weld-checking/eye-protecting glass assembly disposed on a center portion of the auxiliary flash intercepting plate to display a weld portion in an enlarged scale during the welding process while intercepting the flash by being opened and closed in synchronization with a laser beam trigger speed of the welding head; and

open/close control means for generating a trigger pulse and an open/close pulse synchronized with the trigger pulse and for providing the open/close pulse to the weld-checking/eye-protecting glass through the electric cable to open and close the weld-checking/eye-protecting glass assembly.

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2. The weld checking apparatus of claim 1, wherein the weld-checking/eye-protecting glass assembly comprises:

upper and lower protecting glasses coupled to and projected upward and downward from top and bottom surfaces of the auxiliary flash intercepting plate, respectively;

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a magnifying glass 43 coupled on the lower protecting glass to magnifying a weld portion;

a filter lens disposed above the magnifying glass and coated with a reflecting member to intercept a harmful wave
5 that is generated during the welding process, by reflecting the harmful wave; and

an LCD shutter disposed between the upper protecting glass and the filter lens to display the weld portion in real time while being closed and opened by the open/close pulse
10 generated from the open/close control means.

3. The weld checking apparatus of claim 1, wherein the open/close control means comprises:

a trigger switch for generating a welding start signal;
15 an electric power controller for generating operation electric power in response to the welding start signal;

a micro processor for controlling an overall system operation using a voltage supplied from the electric power controller;

20 a pulse signal generator controlled by the microprocessor to generate a pulse;

an oscillating lamp power part, oscillated by the electric power and the pulse respectively supplied from the electric power controller and the pulse signal generator, for
25 generating a trigger pulse for triggering a laser beam and

outputting the triggering pulse through an output terminal;
and

5 a shutter synchronization-driving power part 76 for
generating an open/close pulse signal synchronized with the
trigger pulse generated by the oscillating lamp power part and
providing the open/close pulse signal to the LCD shutter of
the weld-checking/eye-protecting glass assembly.

4. The weld checking apparatus of claim 1, wherein the
10 closing time of the open/close signal is set to be longer than
a width of the trigger pulse.

5. The weld checking apparatus of claim 4, when the width
of the trigger pulse is in a range of 0.5-20 ms, the closing
15 time is set to 30 ms.

6. The weld checking apparatus of claim 1 further
comprising a light installed on a bottom of the auxiliary
flash intercepting plate to illuminate light to the weld
20 portion during welding and weld-checking.